AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-4. (canceled).

5. (previously presented): The method for producing a capacitor as claimed in claims 20 or 21, wherein the fine protrusion is at least one member selected from a metal oxide, a metal salt, a transition element-containing inorganic compound, a transition element-containing organic compound and a polymer compound.

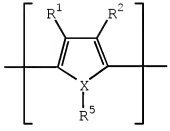
6. (previously presented): The method for producing a capacitor as claimed in claim 20 or 21, wherein the electric conductor is at least one member selected from a metal, an inorganic semiconductor, an organic semiconductor and carbon or a mixture thereof.

7. (previously presented): The method for producing a capacitor as claimed in claim 20 or 21, wherein the electric conductor is a laminated body having, as the surface layer, at least one member selected from a metal, an inorganic semiconductor, an organic semiconductor and carbon, or a mixture thereof.

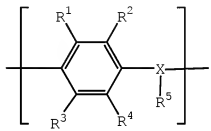
8. (previously presented): The method for producing a capacitor as claimed in claim 20 or 21, wherein the dielectric layer mainly comprises at least one member selected from metal oxides such as Ta_2O_5, Al_2O_3, TiO_2 and Nb_2O_5.

9. (previously presented): The method for producing a capacitor as claimed in claim 20 or 21, wherein the semiconductor layer is at least one member selected from an organic semiconductor layer and an inorganic semiconductor layer.

10. (original): The method for producing a capacitor as claimed in claim 9, wherein the organic semiconductor is at least one member selected from an organic semiconductor comprising benzopyrroline tetramer and chloranil, an organic semiconductor mainly comprising tetrathiotetracene, an organic semiconductor mainly comprising tetracyano-quinodimethane, and an organic semiconductor mainly comprising an electrically conducting polymer obtained by doping a dopant into a polymer containing a repeating unit represented by the following formula (1) or (2):



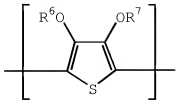
(1)



(2)

wherein R^1 to R^4 each independently represents a hydrogen atom, an alkyl group having from 1 to 6 carbon atoms or an alkoxy group having from 1 to 6 carbon atoms, X represents an oxygen atom, a sulfur atom or a nitrogen atom, R^5 is present only when X is a nitrogen atom, and represents a hydrogen atom or an alkyl group having from 1 to 6 carbon atoms, and each of the pairs of R^1 and R^2, and R^3 and R^4 may combine with each other to form a cyclic structure.

11. (original): The method for producing a capacitor as claimed in claim 10, wherein the electrically conducting polymer containing a repeating unit represented by formula (1) is an electrically conducting polymer containing a structure unit represented by the following formula (3) as a repeating unit:



(3)

wherein R^6 and R^7 each independently represents a hydrogen atom, a linear or branched, saturated or unsaturated alkyl group having from 1 to 6 carbon atoms, or a substituent for forming at least one 5-, 6- or 7-membered saturated hydrocarbon cyclic structure containing two oxygen atoms when the alkyl groups are combined with each other at an arbitrary position, and the cyclic structure includes a structure having a vinylene bond which may be substituted, and a phenylene structure which may be substituted.

12. (original): The method for producing a capacitor as claimed in claim 10, wherein the electrically conducting polymer is selected from polyaniline, polyoxyphenylene, polyphenylene sulfide, polythiophene, polyfuran, polypyrrole, polymethylpyrrole, and substitution derivatives and copolymers thereof.

13. (previously presented): The method for producing a capacitor as claimed in claim 11, wherein the electrically conducting polymer is poly(3,4-ethylenedioxythiophene).

14. (original): The method for producing a capacitor as claimed in claim 9, wherein the inorganic semiconductor is at least one compound selected from molybdenum dioxide, tungsten dioxide, lead dioxide and manganese dioxide.

15. (original): The method for producing a capacitor as claimed in claim 9, wherein the electrical conductivity of the semiconductor is from 10^{-2} to 10^3 S/cm.

16. (previously presented): A capacitor produced by the production method claimed in claim 20 or 21.

17. (original): The capacitor as claimed in claim 16, wherein the impregnation ratio of the semiconductor is 85% or more.

18. (previously presented): An electronic circuit using the capacitor claimed in claim 16.

19. (previously presented): An electronic device using the capacitor claimed in claim 16.

20. (currently amended): A method for producing a capacitor comprising, as one electrode, an electric conductor having formed on the surface thereof a dielectric layer and, as the other part electrode, a semiconductor layer formed on the electric conductor by energization, which comprises ~~passing an electric current through the electric conductor having formed on the surface thereof the dielectric layer using the electric conductor as a anode~~ dipping a negative electrode and the electric conductor having formed on the surface thereof the dielectric layer in a semiconductor layer-forming solution, and applying a positive potential to the electric conductor and a negative potential to the negative electrode so as to pass an electric current between the electric conductor and the negative electrode, wherein discrete feather-shaped fine protrusions are ~~formed~~ present on a part of but less than the entire surface of the dielectric layer before energization having a width of about 0.1 to about 120 nm and a height of about 0.1 to about 600 nm.

21. (currently amended): A method for producing a capacitor comprising, as one electrode, an electric conductor having formed on the surface thereof a dielectric layer and, as the other part electrode, a semiconductor layer formed on the electric conductor by energization, which comprises ~~passing an electric current through the electric conductor having formed on the surface thereof the dielectric layer using the electric conductor as the anode~~ dipping a negative

electrode and the electric conductor having formed on the surface thereof the dielectric layer in a semiconductor layer-forming solution, and applying a positive potential to the electric conductor and a negative potential to the negative electrode so as to pass an electric current between the electric conductor and the negative electrode, wherein discrete fine protrusions having a width of 0.1 to 60 nm are ~~formed~~ present on a part of but less than the entire surface of the dielectric layer before energization, said electric conductor having inner pores formed therein, and wherein a majority of the fine protrusions overlay an outer surface of the dielectric layer or overlay an outer surface of the dielectric layer and an inner pore surface of the electric conductor within 10 μm from the outer surface.

22. (canceled).

23. (previously presented): The method for producing a capacitor as claimed in claim 21, wherein 80% or more of the fine protrusions overlay an outer surface of the dielectric layer or overlay an outer surface of the dielectric layer and an inner pore surface of the electric conductor within 10 μm from the outer surface.

24. (previously presented): The method for producing a capacitor as claimed in claim 20 or 21, wherein the fine protrusion is at least member selected from a metal salt, a transition element-containing inorganic compound and a transition element-containing organic compound.

25. (previously presented): The method for producing a capacitor as claimed in claim 20 or 21, which comprises electrolytically forming the fine protrusions on the dielectric layer.

26. (previously presented): The method for producing a capacitor as claimed in claim 20, wherein the discrete feather-shaped fine protrusions have a width of about 0.1 to about 60 nm and a height of about 0.1 to about 120 nm.

27. (previously presented): The method for producing a capacitor as claimed in claim 21, wherein the discrete fine protrusions have a width of 0.1 to 30 nm.

28. (new): The method for producing a capacitor as claimed in claim 20, wherein said applying step comprises connecting the electric conductor to a positive terminal of a power supply and connecting the negative electrode to a negative terminal of the power supply.

29. (new): The method for producing a capacitor as claimed in claim 21, wherein said applying step comprises connecting the electric conductor to a positive terminal of a power supply and connecting the negative electrode to a negative terminal of the power supply.